# 432 MHz AND ABOVE EME NEWS

# **AUGUST 1999 VOL 27 #9**

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## EME WEB DIRECTORY by DL4EBY

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#### **EME NETS**

# 14.345, 10 AM ET SATURDAYS, AFTER VARO NET SUNDAYS:

- NET CONTL: JOE, K1RQG (207-469-3492), E-MAIL: <u>Joe, K1RQG</u>
- EME STANDINGS: JIM STARKEY, W0KJY, 3845 CAPITOL DRIVE, FT. COLLINS, CO 80526, (970) 226-0669)
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# CONDITIONS

The July SW provided a summertime surprise. On 1296 it was almost like a small contest with plenty of activity and good conditions to boot. The 70 cm band did not provide the same activity "high" nor as good conditions. There was reasonable activity. I found the pol very sharp, although sharper than K1FO experienced. I also found an usual form of slow QSB, which was similar to that observed when working the opposite side of the globe, but present on both close and distant stations.

#### AL7OB

Mike's (BP51dc) 432 results for the SW were on 10 July at 0000 nil JA6AHB (never confirmed sked), 0030 nil RW1AW, 0100 QSO JA5NNS (549/549) and 0200 QSO JA5OVU on random. He also worked K2UYH (549/559) and had partials with KB4CNI, DL9NDD - heard on both skeds, W7QX – copied on 1st transmission only, DL8OBU – he heard Mike, and on many attempts with RW1AW. There were also a lot of sked cancellations. On 11 July he made one more contact with K5GW (559/559) - WOW what a signal! He also had some skeds during the following week and heard KB4CNI again and had another partial with VK4AFL. Mike says that improvements in store for 432 include a new TR relay (Transco thanks to Lucky), a better preamp and separate TX/RX feedlines. 1296 is presently on the back burner.

#### CT1DMK

Luis is still set up for 5.7 cm. He made a few QSOs in July, but only had a partial with W7CNK, and tried to catch VE1ALQ on random. Luis can be on 10 GHz or 5.7 GHz anytime this summer. He will be testing on 24 GHz shortly, but says no skeds until his tests are complete. I believe he is trying to use an 18 GHz TWTA on 24 GHz.

#### **D.J9YW**

Heinrich reports that Giuseppe, I0UGB is now QRV on 1296 with a new 5 m dish and circular pol. Heinrich worked him on 17 July. I0UGB had 150 W at feed. His e-mail address is [starting 1 Sept] Sturbani@Pelagus.it. Heinrich's e-mail is:

#### **DJ9YW's email address**

#### **EA6ADW**

Peter is visiting in DL and will be away from Cerveny until 2 Sept. Peter will be QRV and available for 23 cm skeds from 3 Sept until Nov. On a non- EME note, Peter reports that he has QSO'd 2 times on 10 GHz tropo 9H1ES/P (55/59) in JM76 and JM75 (1090 km). He adds that on 1296 EME he worked W1ZX on random for initial #146.

#### **G3LTF**

Peter writes that it has been very quiet the last couple of EME weekends -- I've been busy with other things, struggling with my 10 GHz tropo system being one! I worked on 432, on 18 June W7CNK, and on 19 June SM3AKW, RW1AW for initial #343 and SM2CEW. On 1296 I QSO'd on 20 June K5JL and W2UHI. In July I was only active on the 11th, on 1296, and worked EA6ADW, OE9ERC, W6HD, OZ4MM, VE6TA, K5JL and N6BQ.

## **GW3XYW**

Stu's recent efforts have been directed at becoming QRV on 10 GHz EME. He reports copy of AA5C (538) on 19 July at 1930. Stu attempted to tailend his sked with OH2AXH, but Stu's 10 W TWTA was not strong enough to be heard. He has also received WA7CJO. Stu is using a 24 section 9' dia (f/d .5) homebrew dish with IMU type feedhorn with waveguide relay on RX. The TWTA is connected directly to the feedhorn. His TWT supply is also homebrew and based on a design by G4JNT in Vol 3 of the RSGB Microwave Handbook. Stu was also active on 1296 and QSO'd on 10 July W2UHI (559/569), N6BQ (569/559) very FB signal, VE6TA (339/449) and W6HD (559/559).

#### **IK5OLO**

Andrea reports on recent 432 MHz operation. He QSO'd on 24 April KB4CNI (449/449) for initial #51 sked and DL9KR (559/549) and heard KB8RQ, DL8OBU and DL9NDD, on 19 May W7GBI (O/O) for initial #52, on 10 July OZ4MM (449/429) and K1FO (449/449), and CWNR SM3AKW and DL9NDD, and on 11 July nil - even though QRV from 1400 to 1600. (He measured 9 dB of Sun noise at 1500.) Andrea is looking for 7-8 Aug skeds.

#### **JA6AHB**

Toshio (PM53cp) worked on 1 June JA4BLC (O/O), on 5 June JA5OVU (O/O), on 19 June K1FO (559/549), JA5OVU (559/559), JA5NNS (559/O) and OK1KIR (O/O), on 20 June JS3SIM (O/M), OZ4MM (559/549), DL9KR (559/569), DF3RU (559/559), SM3AKW (549/549) and DL8OBU (O/O), on 9 July W7CNK (O/O), W7QX (O/O), on 10 July OH2DG (559/449), JH4JLV (559/449), K2UYH (O/O) and JA5OVU (549/559), and on 11 July DF3RU (569/559), DL1YMK (O/O), K1FO (559/559) and K5GW (569/569) to bring him to initial #18 from his new

QTH. Heard were JA3SGR, W7HAH, AL7OB, DL9NDD and JA2TY. Toshio notes he can only operate on CW, he does not have a license for SSB. His new address is (Toshio Tanaka, 6-26-802, Chikkoh-honmachi, Hakata-ku, Fukuoka-city, 812-0021 JAPAN), his e-mail address is:

#### JA6AHB's email address

#### K1FO

Steve was QRV for the July SW. He reports conditions were not as good as in June. Polarity was not as sharp and signals were not as strong as the prior month. Steve was on for 1 hour during the Eur window on Saturday morning (local) and found activity good. On Sunday he was only able to get on for a few minutes several times and found activity low. Stations worked were on 10 July W7QX, DL9NDD, RW1AW, IK5QLO, OZ6OL, K2UYH and JA5OVU - several other stations were heard including W7CNK and G3HUL, and on 11 July the only station worked was JA6AHB. Steve was on briefly the following weekend, (Saturday night local) and found good activity with VK4AFL and JA2TY worked plus N9AB and K5GW heard.

#### K5.IL

Jay was back on 23 cm during the July SW and found signals good. He QSO'd W6HD with big signal, LU8EDR on both SSB and CW and others. During the post SW he had a FB 1296 contact with WA9FWD (539).

#### **LU8EDR**

Daniel is now QRV on 1296. He now also has his own e- mail address. You can arrange skeds by contacting him directly by e-mail. Daniel's address is (D. Oliver, 121 Lomas de zamora, 1832 Buenos Aires, Argentina.) His grid is GF05tf. The station is now a 6 m dish and 70 W PA. Under construction is a 600 W KB2AH cavity PA and a 300 W PA of LU6DW design. The Sun noise is 20dB at a 200 solar flux (KB2AH preamplifier). Tracking is with an azimuth camera, and an 2nd camera for elevation is near ready.

#### N6BO

Hoppy writes -- Conditions on 1296 were quite good during the July SW. All signals were good copy with lots of activity, and all my equipment worked great! I QSO'd on 10 July G4DZU (partial), ON5RR, W2UHI, OZ6OL, K5JL, OZ4MM, N2IQU, GW3XYW, VE1ALQ, W6HD (big signal) and VE6TA, and on 11 July PA3CSG, KB2AH, KD4LT, OZ4MM, K5JL, ZS6AXT, W2UHI, OE9ERC, VE6TA, GW3XYW, G3LTF, EA6ADW and W1ZX for initial #136. Others heard were W6HD, VE1ALQ, and LU8EDR on SSB working K5JL.

#### NU7Z

Rick was active on 13 cm during the July SW. He worked IK2RTI and W5LUA

and heard OK1KIR to whom he sent a report, but received nil in reply. Rick missed WA8WZG.

#### **OH2AXH**

Pertti is now QRV on 5.76 GHz with a 6.4 m .3 f/d dish and V/H feed. He has a 35 W SSPA at the feed and a HB NE32584 LNA for RX.

## **OZ4MM**

Stig has finished his holiday and is now on active duty again -- On 10 July I spend a little time on 432. I worked on random DL1YMK (549/559), G3HUL (449/449), KA0RYT (549/569), RW1AW (549/569) for initial #183 and IK5QLO (429/449) - Andrea is doing a FB job with 2 yagis. As I found activity low on 432, I switched to 1296. I worked on 10 July N6BQ (559/559), W2UHI (559/569), ON5RR (449/549) and W6HD (579/569), and on 11 July G4DZU (549/559), HA5SHF (429/559), KD4LT (579/569), PA3CSG (579/579), KB2AH (579/579), N6BQ (559/569), ZS6AXT (559/579), W6HD (579/569), OE9ERC (579/589), G3LTF (559/569), K5JL (589/579) and finally W1ZX (569/559) for initial #150. I found condx very good and activity much better than on 432!

#### OZ6OL

Hans was active on both 432 and 1296 in June, and can now switch between bands in a few seconds. On 70 cm he worked on 18 June DL9NDD (559/559) and OE3JPC (O/O), on 19 June OK1KIR (O/O), DF3RU (559/549), OE2UKL/p (559/539). [Any info on this station?], EA3DXU (O/O), and W7HAH (O/O) sweeping the tops of trees, and on 20 June KD4LT (559/449) and DF3RU (559/549). His 70 cm Sun noise was about 13.5 ~ 14 dB. On 23 cm Hans contacted on 12 June W2UHI (549/539), on 18 June HB9BBD (579/559), VE1ALQ (559/439), KB2AH (579/549) and K5JL (569/549), and 20 June HB9SV (579/559), OE5EYM (559/529), HB9BBD (55/55) on SSB, F1ANH (569/549) and ZS6AXT (549/549). Hans now has 130 W at his feed with 1.8 dB of cable loss. On RX he is getting 18.3 dB of Sun noise with a .4 dB NF preamp and measures side lobes at 21 dB. [Hans also asks about the dish position readout system I reported in the June-2 NL. Originally I used a tape measure wrapped around a large ring (hub) on the dish mount. A television camera and monitor displayed the inches from the tape and I converted these to degs using a conversion a table. Tom, KB2AH made up a large disk with degrees precisely scribed on it. I can now read out azimuth to about a tenth of a deg. A similar arrangement could be used for elevation.]

#### **RW1AW**

Alex's mailing address is (Alexander Boreyscha, Pr. Engelsa d. 143/1 KW. 12, St. Petersburg 194358.) His grid is KP50eb. His tel is 812-5999537. Alex is running 12 x 15 el BV yagis and a 1500 W PA.

## **VE4MA**

Barry found conditions on 5.7 GHz strange. He QSO'd OE9ERC (569) and CT1DMK, but signals were raspy. Later he added OH2AXH (559/449) for initial #13. Barry is working on 24 GHz EME.

#### **VE6TA**

Grant was QRV during the July SW on 1296 and found conditions very good. -- I was only on for a short period due to working the nightshift. I managed to work the following: GW3XYW (449/339) for a new one and a new DXCC location, W2UHI (549/539), N6BQ (449/329), ON5RR (O/O) another initial from DO33 and W6HD (559/549) - big signal. I am running 275 W to a 5 m dish.

#### W1ZX

Willie finally made it on 23 cm during the June SW after a number of years construction. He QSO'd at 19 June at 2108 KB2AH (579/559) for initial #1, 2116 K5JL (579/439) #2, 2153 W2UHI (339/O) #3 and 2218 W6HD (459/459) #4. In July he still had some Moon tracking problems, but hopes to have a solution soon. Willie worked on 10 July at 1505 W5LUA (O/539), and on 11 July at 1400 DJ9YW (559/559), 1445 EA6ADW (559/559), 1505 OZ4MM (559/559), 1535 N6BQ (559/559), 1600 KD4LT (539/O) and 1610 VE1ALQ (559/559). Willie is running a 32' HB dish with 450 W output from the shack. He plans to be again QRV during Aug SW and is looking for skeds on 23 or 70 cm. Skeds can be arranged by checking into the 20 m net or by e-mail to:

# W1ZX

Willie needs Kentucky on 70 cm for state 50.

#### **W2UHI**

Frank has a new telephone number. The Area code (616) has been changed to (231). The new number is <231-834-8016>. Frank was on 1296 in July and QSO'd during the SW on Saturday ON5RR, N6BQ, OZ6OL, G4DZU, K5JL, OZ4MM, GW3XYW, VE6TA and W6HD, and on Sunday KD4LT, G4DZU, PA3CSG, KB2AH, ZS6AXT, N6BQ and OE9ERC.

#### **W5LUA**

Al was active on 23, 13 and 6 cm during July. He QSO'd W7CNK on 5.7 GHz, W1ZX on 1296 EME for an initial, and WA8WZG, NU7Z and W4HHK on 2300. Al is working on a TH-327 amp for 23 cm.

#### W5ZN

Joel, ARRL Vice President writes -- The dates for the 1999 ARRL International EME Competition will be 30/31 Oct and 27/28 Nov. As always, the ARRL sought as much input as possible concerning this year's dates. Discussions were

conducted on the 20 m EME nets as well as the Moon-Net reflector. Several concerns were expressed regarding weather during the Nov weekend and contest conflicts during the Oct weekends. All of these concerns were taken seriously into consideration, however no real consensus was achieved as to the most preferred dates. Lionel, VE7BQH, assisted by conducting a survey of EME operators on all bands inquiring which dates you wanted. The results of that survey have previously been reported, and as one can clearly see, no date was a clear preference. This left us with the difficulty of selecting a set of weekends that would not be attractive to a large group, regardless of which weekends were selected. If these dates were not your choice, please understand the situation and I want everyone to know that we will again look at the dates in the same manner for the year 2000 in an effort to select the best possible weekend combination to permit maximum participation in the competition. I want to thank all of you for your support of EME activity, and especially thank Lionel and Joe, K1RQG, for their help in disseminating information leading up to this decision. I also want to thank Lionel for conducting the survey and presenting the results to everyone.

## **W7CNK**

Chuck is excited about being back on 5.7 GHz EME. He had an excellent QSO with VE1ALQ (559/539) and later worked VE4MA, W5LUA, OE9ERC and OK1KIR. Another station called just prior to OK1KIR, but he couldn't identify him. He was also called by CT1DMK. He is measuring 19.8 dB of Sun noise and 2.2 dB of Moon noise on 6 GHz. On 70 cm Chuck worked VK4AFL.

#### **WA8WZG**

Tom is ready to go on 10 GHz EME. During July he was active on 13 cm. He worked W5LUA

#### **ZS6AXT**

Ivo reports -- On Saturday 10 July there was no activity here, I was busy. On Sunday 11 July I worked on 23 cm GW3XYW, EA6ADW, OE9ERC, KD4LT, G4DZU, W2UHI, PA3CSG, OZ4MM, N6BQ, W6HD and VE6TA K2UYH

I was on 70 cm the 1st day of the SW. I made it on late, around 1400 because of problems with the voltage to my preamp. It was fine when I checking things out on Monday, but was not working when I wanted to operate! I think I finally found the cause of this problem, which has been a recurring scenario, and hopefully have fixed it permanently. The break in the wires was not where I thought it was. Activity was light, especially from NA, but I still made 2 initials. I worked at 1359 SM3AKW (559/549), 1413 DL3NDD (559/569), 1433 G3HUL (549/449), 1440 DL1YMK (559/559), 1525 AL7OB (O/O) a FB signal for initial #617, 1600 AL7OB (559/559) again, 1925 JA5OVU (559/559), 1950 JA6AHB (O/O) - dish well into the trees and 2015 K1FO (449/569). I was unable to be on 1296 the next day because of a conflict with a wedding and then leaving for a

# **NETNEWS**

# By G4RGK

HB9SUL, Andrea has a new e-mail address: HB9SUL
He is still reachable at the same GSM # (+41/79/310 44 21).

WA1JOF is listening off the moon on 1296 and has heard signals.

**GM4TXX** is still inactive on EME.

**VE1ALQ** had a good QSO on 5.7 GHz with W7CNK (539/559) and later OEERC.

**KD4LT** was active on 23 cm during July and worked a bunch of stations including W1ZX for initial #81.

**W4RDI** has everything working on 1296 EME. He can be reached for skeds at email:

W4RDI's email address

**AA5C** is looking for new stations on 10 GHz.

WD5AGO should have his new 10' dish (good to 6 GHz) up by now.

PA3CSG will probably take his 10 GHz station down in Oct for the winter, but plans to be active on random in Aug.

KAORYT worked RW1AW during the SW on 432.

**K9BCT** was active on 1296 during the July SW.

**KB4CNI** did not have much luck on 432 during the SW. He tried with AL7OB, but hear nil, and missed EA3DXU.

**G4ALH** is presently not QRV.

WORAP's dish is back up, but not yet operational. Bob needs to trim some trees.

**VE6JW** is not presently QRV on 70 cm.

W7QXhad a direct lightening hit to a pole pig. He had no damage to his ham shack, but did lose a TV set, a well pump and a telephone.

W7SZ's new 70 cm array is up and working well. It consists of 4 x 42 el crossed yagis. He worked K5GW on random with 100 W.

K9ZZH copied both K5JL and W1ZX on 23 cm with big sigs.

HP3XUG will be traveling and away from Panama until the end of Sept. Louis can be reached while he is gone at e-mail:

## **HP3XUG's email address**

RW1AW worked KA0RYT in June.

**PY5ZBU** was traveling in June and could not make his WA9FWD sked or his July SW skeds.

VK4DH is in the process of getting set up for 432 EME and should be active in the not too distant future. Dave's e-mail address is:

#### VK4DH's email address

F5SDD, Dave has a new e-mail address,

#### F5SDD's email address

WB0GGM is still having amp troubles and is not able to make skeds. John hopes to be QRV again this fall.

# FOR SALE

VK3HZ is looking for a KB2AH 23 cm LNA. Dave is Currently RX only on 23 cm with a 30 dBd array and wants to get his system NF below 0.5 dB. He will pay/trade/swap. Contact him at phone (+61 41 432 8877) or e-mail at: VK3HZ

WB4MJE has an FT-736R with 2 and 432 modules for sale for \$US600 + shipping. After 15 Aug call 352-394-0037.

# **TECHNICAL**

Here is the 2nd part in a series On Getting the Goo by K5JL which describes mods to the TH-327 Cavity for 1296.

# **FINAL**

The following are the results of the informal survey taken by Lionel, VE7BQH on preferred dates for the 1999 ARRL EME Contest. 48 people answered Lionel's Survey. 23 favored 2/3 and 30/31 Oct, 24 favored 30/31 Oct and 27/28 Nov, and 1 for Either date. Opinion was pretty evenly split and did not appear to depend on geographic area. Lionel did not provide information on the bands operated by the respondents, but I doubt that this was a factor. The official dates have now been set and are 30/31 Oct and 27/28 Nov – see W5ZN's Report.

There was a question on the 20 m net as to why the July SW was schedules a week after perigee. This was because the Moon was just about in sync with the Sun on the perigee weekend.

Please keep the reports and technical info coming. I hope to CU some of you at the EME Symposium in Rochester on 21-22 Aug, and off the Moon. During the SW.

73, Al - K2UYH



```
Skeds for AUG 7
Time
      432.040
0830z OK1KIR-RW1AW
1000z OK1KIR-UT3LL
1030z KB4CNI-OK1KIR
1100z WE2Y -OK1KIR
1200z VE6TA -OK1KIR
1230z KL7HFQ-OK1KIR
1300z AL70B -OK1KIR
1330z WA9FWD-PY5ZBU
Skeds for AUG 8
                     1296.060
Time
      1296.050
0500z OK1KIR-JF3HUC
```

```
0900z OK1KIR-RW3BP
0930z DJ5MN -OK1KIR
1000z IK2RTI-OK1KIR
1030z 9H1ES -OK1KIR
1130z KAORYT-OK1KIR
1200z LU6DW -OK1KIR
1230z W7SZ -OK1KIR
1300z WA9FWD-OK1KIR
1330z W1ZX -OK1KIR WA9FWD-PY5ZBU
1400z KD5FZX-OK1KIR N6BQ -W1ZX
1430z K9ZZH -OK1KIR
1800z WA9FWD-W1ZX
Skeds for AUG 7
Time
      2304.050
1130z NU7Z -HB9SV
```

Notes on TH-327 Cavity by K5JL (part 2) or Hello You Lucky Owner's of the TH-327 Cavity:

This is just an up-date on the operation of the TH-327. After all of the modifications that I have earlier described are made the cavity should purr like a kitten. I did have to remove the muffin pan fan and add a blower to direct air on the lower part of the cavity. This cooled down the input section of the cavity so that after a long cq or transmission - it is still cool to touch. I now notice no thermal drift on the input.

Operation: I was not getting the power out of the cavity that I though, as I had no good high power slug for 1296. I was showing 1500 watts out on my 2.5kw slug (436-12 200 to 500 MHz). Darrell sent me his 1296 slug and as was expected my 2.5kw 432 slug was reading 2 times the actual power. My 1500 watts out were only 750 watts. No problem Jose - goose the drive up a bit and bam - was pinning my 2.5 kW slug (at least 1250 watts out) Goose it a bit more and I was pounding the pin (showing excess of 1500 watts.) The more drive I gave it - the harder I hit the pin. With only type N connectors I decided that I would run it so I just bumped the pin. (Probably 1300 to 1400 watts out) I am sure with about 200 watts of drive it would easily make 2 kW out.

I took the 25 mm disc on the output probe off and installed one that was 15 mm. The max power I could get with the smaller disc was only 600 watts and that was when it was very closely coupled. It acted like I was getting true capacity coupling from the cavity, but power was low. I re- installed the 25mm slug and came way out (as far as I could go) and at that point the power just seemed to jump out. I believe that the output probe at this position is inductive. (Thus

getting inductive coupling-thus getting inductive coupling with the 25mm probe instead of capacitive coupling) This would appear to be true if it were not placed at the exact 1/4 wave point to insure capacitive output for the probe. At any rate who cares, as it works. Plate tuning is about half way in and very sharp.

As more drive was added I noticed that the plate, screen, and grid current did not increase as I had expected it to. In fact the whole amp cooled down. It is running much cooler at 1.5kw than it was at 750 watts.

Plate voltage is 3 kV Screen voltage is 480 volts Grid voltage is 78 volts Heaters 5.8 volts at 34 amps

With 120 watts drive and no indicated VSWR on input:

Plate current is 1.1 amps Screen current 30 ma Grid current 10 ma Power out 1.3 kW

Good Luck and let me know how you make. By the way be sure to change the anode by-pass. I would not consider using anything but Ultem (forget the Teflon.)

**Learn about the upcoming EME Symposium.** 

EME 2000, the upcoming EME conference in Rio, Brazil.

Most recent Schedules from Klaus, DL4EBY

**Lunar Calendar for 1999 prepared by G3SEK** 

Netnotes by K1RQG

# **Leave Contest Info or Comments to Allen Here**

This information was obtained from: Scott, KD4LT
<u>Return</u>
<u>Top Page</u>
Rein, W6/PA0ZN
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